Supplementary Information

High variability of genomic instability and gene expression profiling in different HeLa clones

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Table S1: Karyotypic variability within HeLa cell lines.
Adapted from: Rutledge[1]

HeLa Cell Line	Modal Chr. Number	Provenience	Reference
HeLa-S3 (CRL-7924)	68 (range: 54 - 79)	ATCC	2
HeLa (ATCC® CCL-2™)	82 (range: 70 - 164)	ATCC	2
HeLa *Kyoto*	65 (range: 62 - 68)	CLS Cell Lines Service GmbH	3
HeLa	67	Undefined	4
HeLa CCL2	78 (range: 76 - 80)	ATCC	5
HeLa-S3	68	Provided by colleagues	6
HeLa-20	112	Provided by colleagues	6
HeLa-80	84	Provided by colleagues	6
HeLa	74 (range: 69 - 77)	Undefined	7
HeLa	65 (range: 62 - 67)	Provided by colleagues	8
HeLa D98/AH-2	62 (range 58 - 65)	Undefined	9
HeLa	84 (range: 58 - 179)	ATCC	10
HeLa-S3	68 (range: 51 - 74)	ATCC	10
HeLa	84 (range: 58 - 179)	ATCC	11
HeLa	77	Provided by colleagues	12
HeLa	75 (range: 73 - 76)	Provided by colleagues	12
HeLa D98/AG	63	Provided by colleagues	12
HeLa	69 (range:60 - 80)	Provided by colleagues	13
HeLa	60	Provided by colleagues	14
HeLa	69	Provided by colleagues	15
HeLa	71	Provided by colleagues	16
HeLa D98/AtH2	60 (range 57 - 63)	ATCC	17
HeLa D98/AH-2 cells	62 (range 57 - 63)	ATCC	17
HeLa	69	Provided by colleagues	18
HeLa A-CCL 2	77 (range: 56 - >86)	ATCC	19
HeLa 229-CCL2.1	78 (range: 56 - 86)	ATCC	19
HeLa G	69 (range: 62 - 72)	Company	19
HeLa S3G	76 (range: 65 - 79)	Company	19
HeLa65	65 (range: 62 - 69)	Provided by colleagues	19
HeLa71	70 (range: 59 - 72)	Provided by colleagues	19
Hela75	74 (range: 61 - 77)	Provided by colleagues	19
HeLa	59 (range: 57 - 64)	Provided by colleagues	20
HeLa	51	Undefined	21
HeLa	69 (range: 67-70)	Provided by colleagues	22
HeLa	61 (range: 59-62)	Provided by colleagues	22
HeLa St1	77	Provided by colleagues	23
HeLa F8	70	Provided by colleagues	23
HeLa S1 and S3	78 (range:75 - 82)	Provided by colleagues	24

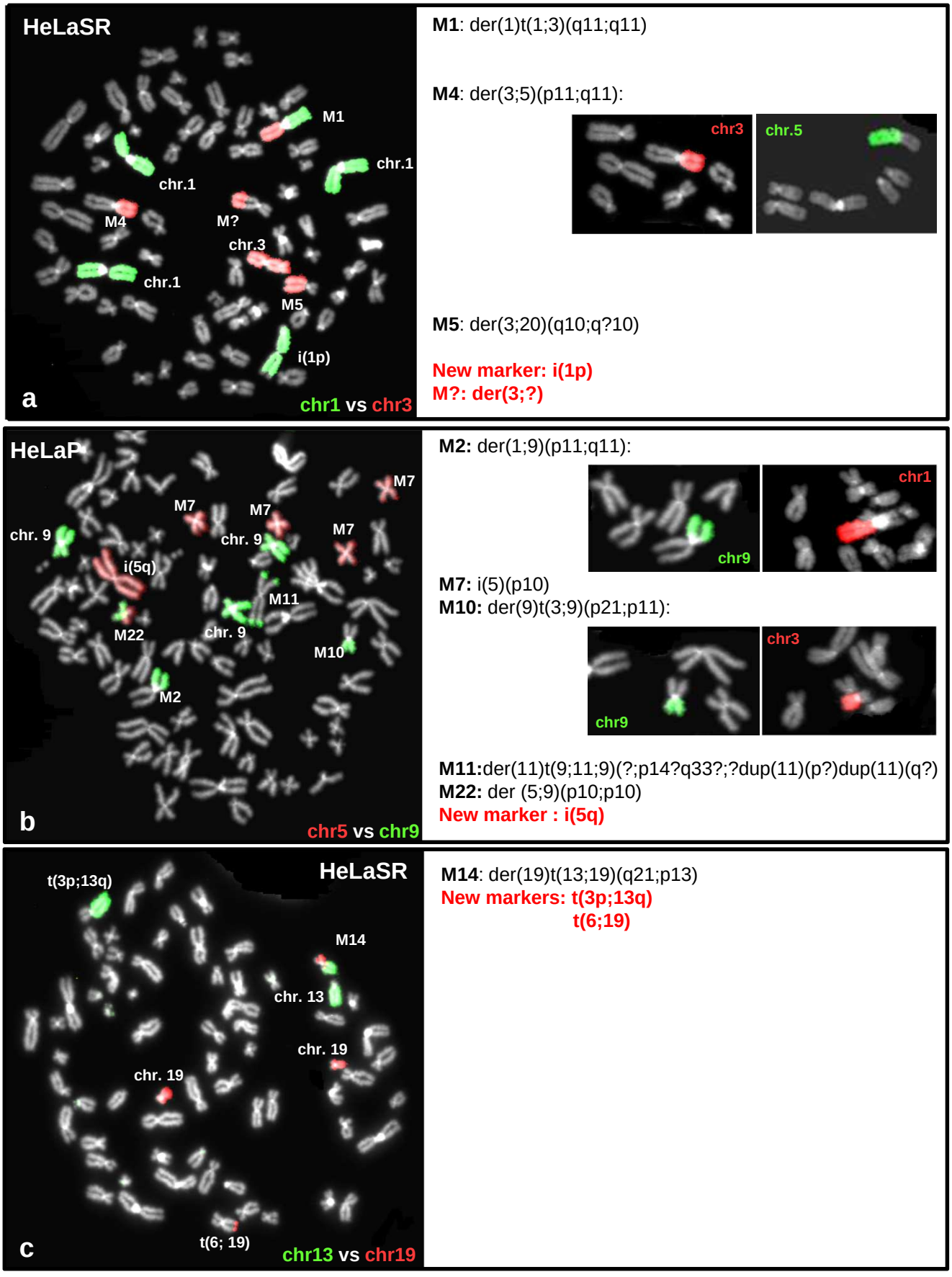

Figure S1: FISH analysis of HeLa lines. FISH analysis was performed using WCP (Whole Chromosome Painting) of chr.1 vs chr.3 (**a**); chr.5 vs chr.9 (**b**); chr.13 vs chr.19 (**c**). HeLa clones display almost all the HeLa-specific markers; in addition our FISH analysis highlights the appearance in each batch of new specific markers (see Table 1) (Leica D500B).

Table S2: Primer used for qRT-PCR to validate the microarray results.

Gene name	ac_number	Primer forward (5'→3')	Primer reverse (5'→3')
Adrenoceptor beta 2, surface	NM_000024.5	CAGGAAAGGGACGAGGTGTG	CAGCACATTGCCAAACACGA
BCL2-associated X protein	NM_001291428.1	AGCTGAGCGAGTGTCTCAAG	GGAAAAAGACCTCTCGGGGG
CCAAT/enhancer binding protein (C/EBP),beta	NM_001285878.1	GGCCGGTTTCGAAGTTGATG	GCTGACAGTTACACGTGGGT
Egl-9 family hypoxia-inducible factor 1	NM_022051.2	TTTTCTGGTCTGACCGTCGC	AGCTCGTGCTCTCTCATCTG
Egl-9 family hypoxia-inducible factor 3	NM_022073.3	AGCTTCCTCCTGTCCCTCAT	ATAGCAAGCCACCATTGCCT
Early growth response 1	NM_001964.2	CACCTGACCGCAGAGTCTTT	TTTGGCTGGGGTAACTGGTC
Heat shock protein 90kDa	NM_007355	TCTGGGTATCGGAAAGCAAGCC	GTGCACTTCCTCAGGCATCTTG
Hypoxia inducible lipid droplet-associated	NM_001098786.1	CGCTGGTGCTTAGTAACCGA	TTCTGAAAGGCCTCTGGACC
Immediate early response 3	NM_003897.3	CCGCAGGGTTCTCTACCCTC	AGAAGCCTTTTGGCTGGGTT
Ribosomal protein S18	NM_022551.2	TGTGGTGTTGAGGAAAGCA	CTTCAGTCGCTCCAGGTCTT
Ubiquitin C	NM_021009.6	GTGGCACAGCTAGTTCCGT	GTCAAGTGACGATCACAGCG
Tumour protein p53	NM_000546.5	AGAAAACCTACCAGGGCAGC	ACATCTTGTTGAGGGCAGGG
Vascular endothelial growth factor A isoform a	NM_001025366.2	TCACCAAGGCCAGCACATAG	TTTCTCCGCTCTGAGCAAGG

Table S3: Validation of genes regulated by hypoxia by qRT-PCR in the HeLaSR and HeLaP.

Detector		FC HeLaSR		FC HeLaP	
Gene name	**Gene symbol**	**qRT-PCR**	**microarray**	**qRT-PCR**	**microarray**
Adrenoceptor beta 2, surface	ADBR2	-3.2	-1.8	0.8	0.2
BCL2-associated X protein	BAX	-0.3	0.2	0.2	0.1
CCAAT/enhancer binding protein beta	CEBPB	1.8	1.4	0.4	0.1
Egl-9 family hypoxia-inducible factor 1	EGLN1	-1.6	1.5	4.8	1.4
Egl-9 family hypoxia-inducible factor 3	EGLN3	0.1	0.5	3.8	2.2
Early growth response 1	EGR1	-6.8	-6.3	1.7	1.0
Hypoxia inducible lipid droplet-associated	HILPDA	4.1	3.8	3.1	2.4
Immediate early response 3	IER3	6.4	2.8	2.2	1.1
Tumor protein p53	TP53	-0.4	-1.2	1.3	-0.3
Vascular endothelial growth factor A isoform a	VEGFA	1.3	4.3	4.9	2.2

Fold change (FC) expresses the difference of the mean log control and mean log hypoxia stimulated data.
FC qRT-PCR: regulation measured by real-time PCR technology; FC array: regulation done with microarray technology.

Supplementary references (related to Supplementary Table 1)

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